minimum uptake value, defined as the mean value minus twice the standard deviations.

In ten normal patients, examined at rest and after exercise, the normal values turned out to be higher after exercise (*3*). For this state, we found the following normal minimum values (mean ± 1 s.d.):

1. Antero-lateral wall (A-P proj.): 85.5 ± 4.2 (%).
2. Lateral wall (indicated as posterolateral segment [25° LAO] in [*1*]) (30° LAO proj.): 85.1 ± 4.4 (%).
3. Anterior wall (90° left lat. proj.): 84.1 ± 4.7 (%).
4. Posterior wall (90° left lat. proj.): 84.3 ± 3.7 (%).

This indicates that relative myocardial Tl-201 uptake, measured after exercise, must be considered subnormal, if the values (mean minus 2 s.d.) are less than

1. 77.1% in the antero-lateral wall,
2. 76.3% in the lateral wall (indicated as posterolateral segment [25° LAO] in [*1*]),
3. 74.7% in the anterior wall and
4. 76.9% in the posterior wall.

These limiting values are very close to the value of 75.0%, uniformly used by Lenaers et al. (*1*) for all segments of the left ventricle, but they are not uniform. The use of a uniform normal value for all left-ventricular segments is therefore risky. This is additionally emphasized by the fact that minimum Tl-201 uptakes in both normal myocardium and CAD are sometimes (in 18% of our 50 patients) very close (±2.0%) to these limits. Since number of false positives and false negatives evaluated for each segment depends by definition on the individual normal value, these small but obvious differences in normal values play an important role.

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Reply

In our paper "Segmental analysis of Tl-201 stress myocardial scintigraphy" (*1*), we do not present a method for the quantitation of Tl-201 myocardial uptake. Our approach is display-oriented and tends to produce pictures allowing direct visual analysis and easier identification of normal and abnormal myocardial uptake. Thus, our method is somewhat different from the analyzing procedure of Buell and coworkers, who use tables of more than 200 digits for the quantitation of Tl-201 myocardial and mediastinal uptake at rest (*2*).

To classify Tl-201 myocardial uptake as normal and abnormal in our work, the level corresponding to 75% of maximal myocardial uptake has been chosen as the lower normal limit, because other levels produced more frequent false-positive or false-negative results. We are pleased to read that Buell and coworkers have found very similar values by a statistical approach in a study to be published (*3*).

Of course, the very small difference between their values and ours needs further confirmation before it can be considered significant.

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The Scintigraphic Investigation of Sacroiliac Disease: Influence of Age on the Uptake Ratio between Sacroiliac and Os Sacrum

We are currently evaluating various bone-to-bone and joint-to-bone ratios in patients with both normal and diseased skeletal states, using Tc-99m pyrophosphate and Tc-99m methylene diphosphonate and the region-of-interest technique and focussing our interest on the correlation of the ratio value with the age of the patients (*1,2*). The sacroiliac joint/os sacrum ratio, computed 2 to 3 hr after injection, turned out to decrease systematically with increasing age. In the group of patients 21 to 30 years of age this ratio was 1.20 ± 0.19 (2 s.d.); in the group aged 71 to 80 yr it turned out to be 1.04 ± 0.18 ($p < 0.0025$). This was found for both of the bone-seeking radiopharmaceuticals without any significant difference. A similar decrease was computed for the os sacrum/femoral diaphysis ratio.

It is necessary to include these findings in a staging of sacroiliac disease done by determination of joint and bone uptakes (*3*), since the uptakes in both the sacroiliac joints and the os sacrum (cancellous bone) decrease with advancing age, the latter less than the former (*2*).

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